

PATENT

FRENCH PETROLEUM INSTITUTE

PROCESS FOR THE PREPARATION OF A THIN ZEOLITE MEMBRANE

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ABSTRACT

Described is a process for the preparation of a supported zeolite membrane that consists of a zeolite/substrate composite layer, whose zeolite phase exhibits a crystallinity of at least 85%, comprising:

- a) the formation of a gel or a solution that comprises at least one source of silica and water, supplemented with at least one polar organic compound,
- b) bringing into contact said gel or said solution with a porous substrate,
- c) the crystallization of the zeolite starting from said gel or said solution; and
- d) the elimination of residual agents.

The molar ratio of the water to the silica in the gel or the solution in stage a) is between 27:1 and 35:1. The crystallization time of stage c) is at least 25 hours.

Said process is particularly suited for the preparation of zeolite membranes whose zeolite phase is of the MFI-structural type.